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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,476	12/27/2001	Jae Yong Park	8733.571.00	7764

30827 7590 01/16/2003

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EXAMINER

ALEMU, EPHREM

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,476

Applicant(s)

PARK ET AL.

Examiner

Ephrem Alemu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 12-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group II in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically points out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 7-11, are drawn to a method for manufacturing an active matrix organic electroluminescence display device, classified in class 438, subclass 149.

II. Claims 1-6 and 12-14, are drawn to an active matrix electroluminescence display device, classified in class 315, subclass 169.3.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions of Group I and Group II are related as process of making and product made.

The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the device of Group II can be fabricated by different method such as, depositing an amorphous silicon on a substrate and implanting the amorphous silicon with heavy metal ion and annealing it to crystallize the amorphous silicon, and after the crystallization process depositing a gettering film on the crystallized silicon (i.e., polycrystalline silicon) layer and annealing the substrate at a predetermined temperature in order to derive the heavy metal ion into the gettering layer and removing the gettering layer instead of crystallizing the amorphous silicon to a polysilicon by a sequential lateral solidification (SLS) method.

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4. Because these inventions are distinct for the reason given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. The restriction requirement is deemed proper and is therefore made **FINAL**.

6. Claims 7-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in Paper No. 5.

Drawings

7. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “gate driver IC and a data driver IC having a plurality of transistors” as claimed in claim 4 must be shown or the feature(s) canceled from the claim. No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to because of the following informalities:

(i) The brief description of the drawing states that “Fig. 6 illustrates a method of forming a TFT of a pixel region by a sequential lateral solidification (SLS) method....” However, the drawing of Fig. 6 does not illustrate the method of forming a TFT of a pixel region by a sequential lateral solidification method.

(ii) The brief description of the drawing states that “Fig. 7 illustrates a method of forming a pixel region and a TFT of a driving IC for driving the pixel region by an SLS method....”

However, the drawing of Fig. 7 does not illustrate the method of forming a pixel region and a

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TFT of a driving IC for driving the pixel region by an SLS method. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Double Patenting

9. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

10. Applicant is advised that should claims 1-3 be found allowable, claims 12-14 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claims 12-14 are objected to as being exact duplicate of claims 1-3.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 6,380,688).

Re claims 1, 2, 12 and 13, Bae discloses an active matrix organic electroluminescence display (Fig. 4) device comprising:

a scan line (i.e., scanning electrode line 12) in one direction (Figs. 1, 4);

a data (i.e., data electrode line 14) substantially perpendicular to the scan line (i.e., scanning electrode line 12) (Figs. 1, 4);

a power line (i.e., power supply line 16) substantially parallel to the data line (i.e., data electrode line 14) keeping a distance with the data line (i.e., data electrode line 14);

an electroluminescence device (Ed) emitting light in a pixel region among the scan line (i.e., scanning electrode line 12), the data line (i.e., data electrode line 14) and the power line (i.e., power supply line 16);

a switching transistor (Qs) for switching a signal of the data line (i.e., data electrode line 14) according to a signal of the scan line (i.e., scanning electrode line 12); and

a driving transistor (Qd) for applying a power supply (Vdd) of the power line (i.e., power supply line 16) to the electroluminescence device (Ed) according to a signal applied through the switching transistor (i.e., scanning electrode lines 12).

It would have been obvious that the switching transistor (Qs) of Bae's can be formed by any process and/or method and especially by a sequential lateral solidification (SLS) method since Bae's switching transistor (Qs) performs the same function which is switching a signal of the data line (i.e., data electrode line 14) according to a signal of the scan line (i.e., scanning electrode line 12).

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Re claims 3 and 14, Bae further discloses a capacitor (C) storing electrons according to a difference between a voltage of data signal applied to the data line (i.e., data electrode line 14) and a voltage (VDD) provided from the power line (i.e., power supply line 16) (Figs. 1, 4).

13. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae et al. (US 6,380,688) in view of Shi et al. (US 5,998,805).

Re claims 4 and 6, Bae discloses an active matrix organic electroluminescence display device (Fig. 4) comprising:

- a plurality of scan lines (i.e., scanning electrode lines 12) in one direction;

- a plurality of data lines (i.e., data electrode lines 14) substantially perpendicular to the scan line (i.e., scanning electrode lines 12) to define a plurality of pixel regions (10) (Figs. 1, 4);

- a plurality of power lines (i.e., power supply lines 16) substantially parallel to the data line (i.e., data electrode lines 14) and a distance from the data line (i.e., data electrode lines 14) (Figs. 1, 4);

- an electroluminescence device (Ed) emitting light in each of the pixel regions (10) among the scan line (i.e., scanning electrode lines 12), the data line (i.e., data electrode lines 14) and the power line (i.e., power supply lines 16) (Figs. 1, 4);

- a switching transistor (Qs) for switching a signal of the data line (i.e., data electrode lines 14) according to a signal of the scan line (i.e., scanning electrode lines 12) in each of the pixel regions (10) (Figs. 1, 4);

- a driving transistor (Qd) for applying a power supply (Vdd) of the power line (i.e., power supply lines 16) to the electroluminescence device (Ed) according to a signal applied through the switching transistor in each of the pixel regions (10) (Figs. 1-4).

Bae further discloses a gate driver IC (i.e., gate driving circuit 23, 43) for applying a scan signal to each scan line (i.e., scanning electrode lines 12); and a data driver IC (i.e., data driving circuit 21, 41) for applying a data signal to each data line (i.e., data electrode lines 14) (Figs. 2, 3). Bae does not disclose the gate driver IC (i.e., gate driving circuit 23, 43) and/or the data driver IC (i.e., data driving circuit 21, 41) having a plurality of transistors.

Shi discloses CMOS drivers being used for both gate (i.e., row) and data (column) drivers for applying a scan signal and a data signal to each scan (row) line and data (column) line (Figs. 1, 4; Col. 5, lines 36-46; Col. 6, lines 14-32; wherein CMOS is a form of construction of a monolithic integrated circuit comprising plurality of transistors).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the gate driver IC (i.e., gate driving circuit 23, 43) and/or the data driver IC (i.e., data driving circuit 21, 41) of Bae's with CMOS driver of Shi's for the purpose of having low power consumption when the driver circuit include a CMOS driving circuit.

Further, it would have been obvious that the switching transistor (Qs), the driving transistor (Qd) and the transistors in the Bae's modified by Shi's gate drive IC and the data drive IC can be formed by any material and/or method and especially by a sequential lateral solidification (SLS) method since Bae's switching transistor (Qs), the driving transistor (Qd) and the transistors in the Bae's modified by Shi's gate drive IC and the data drive IC performs the same function for switching and applying power in each of the pixel region.

Re claim 5, it would have been obvious that the switching transistor (Qs) and the driving transistor (Qd) can be formed by any process and/or method and especially by low temperature polysilicon low temperature process and a scanning method since Bae's switching transistor

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(Qs), the driving transistor (Qd) performs the same function for switching and applying power in each of the pixel region.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dawson et al. (US 6,307,322) ; Kurosawa et al. (US 6,057,647) and Tang et al. (US 5,684,365); also teach similar inventive subject matter.

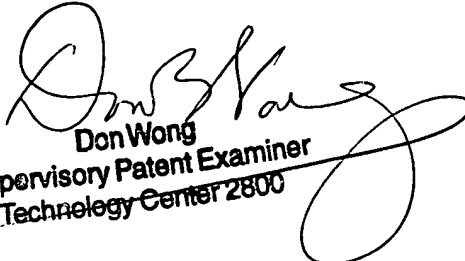
Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (703) 306-5983. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K Wong can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

EA
1-10-03


Don Wong
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